SMIRNOV, A.N.

SMIRNOV, A.N.

Some methodological remarks on recording case history in a neurological clinic. Zhur.nevr. i psikh. Supplement:54-55 '57.
(MIRA 11:1)

1. Iz kliniki nervnykh bolezney (zav. - prof. I.I.Rusetskiy) Kazanskogo instituta usovershenstvovaniya vrachey imeni V.I.Lenina.
(MEDICAL RECORDS)

RUSETSKIY, I.I.; SMIRNOV, A.N. (Kazan')

Training of neuropathologists in institutes for the advanced training of physicians. Zhur. nevr. i psikh. 61 no.6:805-806 '61. (MIRA 15:2)

(NEUROLOGY--STUDY AND TEACHING)

SMIRNOV, A.N.

Lumbosacral radiculitis with lesions of the superior lumbar roots. Kaz.med.zhur. no.3:47-48 My-Je '62. (MIRA 15:9)

1. Klinika nervnykh bolezney (zav. - prof. I.I.Rusetskiy) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni V.I.Lenina.

(NERVES, SPINAL--DISEASES)

RATNER, A.Yu.; SMIRNOV, A.N. (Kazan')

Comatose form of acute hemorrhagic meningo-encephalitis with a favorable result. Kaz.med. zhur. no.3:91-92 My-Je '63.
(MIRA 16:9)

(MENINGES—DISEASES) (ENCEPHALITIS)

RATNER, A.Yu.; SMIRNOV, A.N.

Thrombosis of the vessels of the base of the brain in diabetes mellitus. Kaz. med. zhur. no.6:55-58 N-D '63.

(MIRA 17:10)

1. Kafedra nervnykh bolezney (zav. - prof. I.I. Rusetskiy) Kazanskogo gosudarstvennogo instituta dlya usovershenstvovaniya vrachey imeni Lenina.

SMIRNOV, A. N.

Smirnov, A. N. "The histological structure and development of inflammatory granuloma in epizootic lymphangitis of horses," Trudy Stavrop. S.-kh. in-ta, Issue 3, 1948, p. 2-16

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)- item 9203
Also in Veterinariya, Vol. 26, No. 7, July 1949 Tab Con

SMIRNOV, A.N.

27685 Leshch prikvrinskikh ozer sistemy sarysu. Trudy zool. in-ta (Akad. nauk azerbaydzh. SSR), T. XIII 1949, s. 60-70 --rezyume na azerbaydzh, yaz. ---Bibliogr: 18 nazv.

SO: Knizhnaya Letopis, Vol. 1, 1955

SMIRNOV, A.N.

A simple device for shading preparations in electronic microscopy. Lab.delo 2 no.5:11-14 S-O '56. (MLRA 9:11)

1. Iz Vsesoyuznogo instituta eksperimental'noy veterinarii, Moskva
(MEDICAL INSTRUMENTS AND APPARATUS)
(ELECTRON MICROSCOPY)

Abstract in Sum. 1204, 28 Jan 57

USSR/Diseases of Farm Animals. Noninfectious Diseases. R-2

Abs Jour : Ref Zhur-Biol., No 2, 1958, 2752

Author : Smirnov A. N.
Inst : Stavropol' Agricultural Institute
Title : On the Problem of the Pathogenesis and Classification of Fibrinous Inflammation of the Lungs in Domestic Animals.

Orig Pub : Tr. Stavropol'sk s-kh. in-ta, 1956, vyp. 7, 349-356

Abstract : Pathalogo-Anatomical and histological investigations of pulmonary fibrinous inflamation (FI) established that in single hoofed animals there are two stages in the course of the disease: anterior alveolar and a croup inflamation. A frequent outcome of such inflamation in horses is a resolution followed by complete recovery. The

Card 1/2

SMIRNOV, A.N.; PEDCHENKO, V.I., veterinarnyy vrach

Veterinary science at the International Mobile Exhibition of Apparatus and Measuring Instruments. Veterinariia 36 no.7: 13-21 Jl '59. (MIRA 12:10)

1. Zaveduyushchiy razdelom zhivotnovodstva i veterinarii Vystavki dostizheniy narodnogo khozyaystva Moskva, i starshiy nauchnyy sotrudnik Vsesoyuznogo instituta eksperimental'noy veterinarii (for Smirnov). 2. Metodist razdela zhivotnovodstva i veterinarii Vystavki dostizheniy narodnogo khozyaystva, Moskva, i mladshiy nauchnyy sotrudnik VNIIVVM (for Pedchenko).
(Veterinary instruments and apparatus—Exhibitions)

SMIRNOV, A.N., kand.veterinarnykh nauk

Pathology of the hooves of deer which have survived foot and mouth disease. Trudy VIEV 26:26-29 '62. (MIRA 16:2)

1. Laboratoriya mikrobiologii i immuniteta Vsesoyuznogo instituta eksperimental'noy veterinarii.
(Deer—Diseases and pests) (Foot-and-mouth disease)

SMIRNOV, A.N., kandidat biologicheskikh nauk.

Kura River lamprey*. Priroda 41 no.7:111-112 Jl '53. (MLRA 6:6)

1. Institut zoologii Akademii nauk Azerbaydzhanskoy SSR.
(Kura River--Lampreys)

*eellike aquatic vertebrates

SHIR[illegible], A. M.

"Braghinkov Herrings of the Caspian Sea." Dr Biol Sci, Inst of Zoology Acad Sci Azerbaydzhan SSR, Baku, 1955. (KL, No 12, Mar 55)

So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SMIRNOV, A.N.

Origin and development of races of the shad Caspialosa Brashnikovi (Borod.) in the Caspian Sea and Black Sea. Trudy Karad. biol. sta. no.14:92-121 '57. (MLRA 10:8)
(Caspian Sea--Shad) (Black Sea--Shad)

SMIRNOV, Anatoliy Nikolayevich, doktor biolog.nauk; KOTOV, Mikhail Ivanovich, doktor biolog.nauk; PUZANOV, Ivan Ivanovich, prof., doktor biolog. nauk; D'YAKONOV, Aleksandr Mikhaylovich [deceased]; GRISHCHENKO, Dmitriy Lukich; BRAGINSKIY, L.P., red.izd-va; KRYLOVSKAYA, N.S., tekhn.red.

[Karadag; popular science studies] Karadag; nauchno-populiarnye ocherki. Kiev, Izd-vo Akad.nauk USSR, 1959. 107 p.
(MIRA 13:5)

(Karadag (Crimea)--Physical geography) (Black Sea--Marine fauna)
(Karadag (Crimea)--Marine laboratories)

SMIRNOV, A.N.

Age and growth of some fish species in the Black Sea. Trudy Karad. biol. sta. no.16:70-85 '60. (MIRA 13:9)
(BLACK SEA--FISHES)

SMIRNOV, A.N.

Feeding habits of young pike perch (Lucioperca lucioperca L.) and bream (Abramis brama L.) of the Sea of Azov. Zool. zhur. 41 no.12:1843-1847 D '62. (MIRA 16:3)

1. Azov Research Institute of Fishery Management, Rostov-on-Don.
(Azov, Sea of—Pike perch) (Azov, Sea of--Bream)
(Fishes--Food)

SMIRNOV, A.N.; NAUMOV, V.M.

Biological basis for efficient fisheries in the Taganrog Gulf of the Sea of Azov. Vop. ikht. 3 no.3:460-471 '63. (MIRA 16:10)

1. Azovskiy nauchno-issledovatel'skiy institut rybnogo khozyaystva-As NIIRKh, Rostov-na-Donu.
(Taganrog Gulf--Fisheries)

ACC NR: AR7004299 SOURCE CODE: UR/0271/66/000/011/A005/A005

AUTHOR: Smirnov, A. N.

TITLE: Method for engineering estimation of reliability of an inductive parametron

SOURCE: Ref. zh. Avtomat. telemekh. i vychisl. tekhn., Abs. 11A34

REF SOURCE: Izv. Leningr. elektrotekhn. in-ta, ch. 2, vyp. 56, 1966, 40-44

TOPIC TAGS: parametron, reliability, electronic circuit

ABSTRACT: A spectral method for estimating functional reliability by means of calculating the rate of gradual failures is considered. A formula is supplied for estimating this rate from three operability conditions: the range of detuning of parametron circuit and transient conditions of the circuits. Bibliography of 3 titles. V. R. [Translation of abstract]

SUB CODE: 09, 14

Card 1/1 UDC: 621.318.565

ACC NR: AT5020234

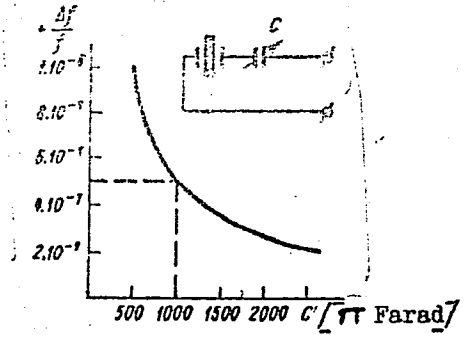


Fig. 1. Graph for the calculation of residual capacity

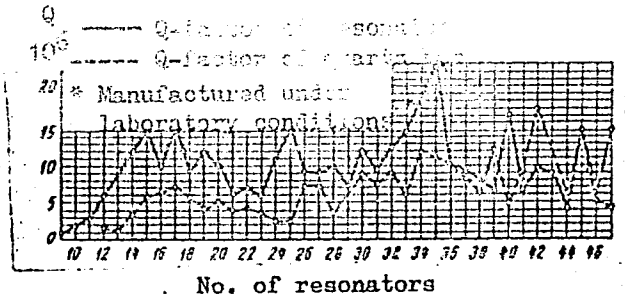


Fig. 2. Correlation between the Q-factors of quartz bars and resonators manufactured in a small-volume plant over a period of one year

Orig. art. has: 1 table, 13 graphs, and 15 equations.

SUB CODE: 09, 11, 14/ SUBM DATE: --Sep62/ ORIG REF: 004/ OTH REF: 004

Card 2/2

RATNER, A.Yu.; SMIRNOV, A.N.

Neurological characteristics of cervical diskogenic myelopathies. Vop. neirokhir. no.5:50-51 '64. (MIRA 18:10)

1. Kafedra nervnykh bolezney (zav. -- prof. I.I.Rusetskiy) Kazanskogo instituta usovershenstvovaniya vrachey.

ALENKO, V.M., veter.vrach; KULIKOVA, V.N., veter.vrach; MALAKHOVA, L.S., veter.vrach; SMIRNOV, A.N., prof.

Coligranulomatosis in poultry. Veterinariia 41 no.10:33-36 O '64. (MIRA 18:11)

1. Pyatigorskaya mezhoblastnaya veterinarnaya laboratoriya po bor'be s boleznyami ptits (for Alenko, Kulikova, Malakhova). 2. Stavropol'skiy sel'skokhozyaystvennyy institut (for Smirnov).

SMIRNOV, A.P., kand.sel'skokhozyaystvennykh nauk

First successes of poultry raisers on the Kirov Collective Farm. Ptitsevodstvo 8 no.6:22-23 Je '58. (MIRA 11:6)
(Poultry)

BADER, Otto Nikolayevich; SMIRNOV, Aleksey Petrovich

["Silver from beyond the Kama River" of the first centuries of our era; Bartym location] "Serebro zakamskoe" pervykh vekov nashei ery; bartymskoe mestonakhozhdenie. Moskva, Gos.izd-vo kul'turno-prosv.lit-ry, 1954. 24 p. (MIRA 12:12)
(Silversmithing)

SMIRNOV, A.P., inzh.; SIROTINSKIY, I.B., inzh.

Mechanization of welding operations in railroad car building.
Svar. proizv. no.10:8-12 O '61. (MIRA 14:9)

1. Rizhskiy vagonostroitel'nyy zavod.
(Railroads--Cars--Welding)

S/120/62/000/003/032/048
E032/E114

AUTHORS: Grigor'yev, A.D., Mikhaylov, Yu.G., Reynov, N.M., Rumyantseva, A.V., and Smirnov, A.P.

TITLE: An apparatus for producing films by evaporation in vacuo

PERIODICAL: Pribory i tekhnika eksperimenta, no.3, 1962, 133-135

TEXT: A description is given of a laboratory apparatus (including a full sectional drawing) for the production of films of metals and dielectrics. It can be used to evaporate five different materials and to obtain (in a single pumping cycle) multi-layer systems consisting of films with ten different configurations in any desired sequence. The thickness of the films is determined in situ from their resistance. Alundum evaporators heated directly by tungsten spirals are employed (maximum temperature 1700 °K, 160 W). The pumping speed (oil diffusion pump) is 250 litres/sec and the working pressure is 5×10^{-6} mm Hg. The targets are cooled by liquid nitrogen. There are 3 figures.

Card 1/2

An apparatus for producing films... S/120/62/000/003/032/048
E032/E114

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR
(Physicotechnical Institute AS USSR)

SUBMITTED: November 14, 1961

Card 2/2

PAUSHKIN, Ya.M.; VISHNYAKOVA, T.P.; SMIRNOV, A.P.

Exothermic catalytic pyrolysis of unsaturated and aromatic hydrocarbons. Neftekhimiia 1 no.4:514-520 Jl-Ag '61. (MIRA 16:11)

1. Institut neftekhimicheskoy i gazovoy promyshlennosti imeni I.M. Gubkina.

S/065/61/000/012/003/005
E075/E135

AUTHORS: Vishnyakova, T.P., Paushkin, Ya.M., Bondarenko, L.V., and Smirnov, A.P.

TITLE: Influence of the chemical composition of hydrocarbon feedstock and aqueous vapours on the dynamics of formation of olefines during high temperature pyrolysis

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.12, 1961, 11-14

TEXT: The aim of this work was to study dynamics of gasification of n-cetane, α-methyldecalin and a middle kerosene fractions (b.pt.200-300 °C) leading to the formation of ethylene and propylene. The gasification process was carried out in a laboratory apparatus, a diagram of which is shown in Fig.1, where: 1 - reactor; 2 - electric furnace; 3 - flow meters; 4 - receiver for condensate; 5 - water pump; 6 - feedstock pump; 7 - burettes; 8 - receiver for condensate; 9 - condenser; 10 - water washer; 11 - oil washer; 12 - gas meter; 13 - beater for feedstock; 14 - heater for steam; 15 - sprayer. The feedstock was preheated to 300 °C, sprayed into the reactor with steam preheated to

Card 1/4

450-500 °C (feedstock-steam ratio 1:1). The mixture was heated in the reactor to 800 °C, the temperature being controlled electrically. The total material balance and the balance for each section of the reactor are obtained as a function of the place of gas take-off. The time of contact of feedstock in the reaction zone was determined to obtain the speed of gasification of the different types of hydrocarbons along the length of the reactor. For the n-cetane fraction the formation of olefines passes through a maximum and reaches about 40% of the total gas for the reaction times of 0.5 to 0.6 sec. Subsequently the concentration of olefines begins to fall rapidly and for 1.5 - 2.0 sec reaction times it is as low as 5-7%. The extent of gasification after 2 sec reaches 90% of the feedstock but at the time of maximum olefine yield, only 50% of the feedstock is gasified. Gasification of α-methyldecalin fraction gives less olefines and a maximum yield of 24% is reached for the reaction time of 0.6 sec. The kerosene fraction, which consisted mainly of naphthenes and paraffins, gave a maximum yield of 27% after 0.3-0.5 sec. The composition of gases formed during the pyrolysis is different for each hydrocarbon fraction investigated.

Card 2/4

Influence of the chemical S/065/61/000/012/003/005
E075/E135

There are 4 figures and 1 table.

ASSOCIATION: MINKh and GP imeni I.M. Gubkin

Card 3/4

SMIRNOV, A.P., inzh.; EL'KIN, E.Z., inzh.

Increase the effectiveness of metal supports in development workings. Ugol' Ukr. 4 no.4:12-13 Ap '60. (MIRA 13:8)

1. Tsentral'nyy nauchno-issledovatel'skiy institut Podzemshakhtostroy.

(Mine timbering)

SMIRNOV, A.P., brigadir kamenshchikov.

Work organization of a mixed crew of brick layers. Nov.tekh. i pered.op. v stroi. 18 no.12:21-23 D '56. (MLRA 10:1)
(Bricklaying)

SMIRNOV, A.P., inzhener

Construction of the reinforced concrete bridge across the Rhine at Worms. Bet. i zhel.-bet. no.7:264-265 O '55. (MLRA 9:1)
(Rhine River--Bridges, Concrete)

TARGULYAN, Yuriy Oganesovich, kand. tekhn. nauk; CHEKOTILLO, A.M., kand. tekhn. nauk, retsenzent; SMIRNOV, A.P., inzh. red.; CHVANOV, V.G., red. izd-va; GALAKTIONOVA, Ye.N., tekhn. red.

[Artificial structures over streams subject to icing] Iskusstvennye sooruzheniia na vodotokakh s naladiami. Moskva, Nauchno-tekhn. izd-vo M-va avtomobil'nogo transp. i shossejnykh dorog RSFSR, 1961. 78 p. (MIRA 14:5)
(Road construction) (Ice on rivers, lakes, etc.)

SMIRNOV, A.P.

KOZHINOV, V.F.; POPKOVICH, G.S.; KARLINSKAYA, M.I.; KUBLANOVSKIY, L.B., kandidat tekhnicheskikh nauk, retsenzent; KONYUSHKOV, A.M., kandidat tekhnicheskikh nauk, redaktor; SMIRNOV, A.P., redaktor; PERSON, M.N., tekhnicheskiy redaktor.

[Automation in the work of water supply and sewage disposal installations] Avtomatizatsiia raboty vodoprovodno-kanalizatsionnykh sooruzhenii. Moskva, Gos.izd-vo lit-ry po stroitel'stvu i arkhitekture, 1955. 257 p. (MLRA 9:1)
(Automation--Water-supply engineering)
(Sewage--Purification)

SMIRNOV, Aleksandr Pavlovich[Smyrnov, O.P.]; KOVALENKO, O.I., red.; CHEREVATSKIY, S.A.[Cherevats'kyi, S.A.], tekhn. red.

[Production and use of fodder yeast] Vyhotovlennia i vykorystannia kormovykh drizhdzhiv. Kyiv, Derzhsil'hospvydav URSR, 1962. 23 p. (MIRA 16:5)

(Yeast as feed)

1. SMIRNOV, A. P., Prof., MERIERT, N. Ya.

2. USSR (600)

4. Kuybyshev Hydroelectric Power Station - Antiquities

7. Archaeological expedition to the construction site of the Kubyshev hydroelectric power station in 1952. Vest. AN SSSR 23, No. 1, 1953.

9. **Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.**

SMIRNOV, A.P., professor; MERPERT, N.Ya., kandidat istoricheskikh nauk.

Archaeological investigations of the Kuybyshev expedition in 1953.
Vest.AN SSSR 24 no.4:59-68 Ap '54. (MLRA 7:5)
(Volga Valley--Archaeology)
(Archaeology--Volga Valley)

BARDIN, I.P., akademik, glavnyy red. [deceased]; KHACHATUROV, T.S., otv. red.toma; SMIRNOV, A.P., zam.otv.red.toma; VERKHOVSKIY, I.A., red. toma; NEKRASOVA, R.I., red.toma; TSENIN, S.S., red.toma; LAVRENT'YEV, M.A., red.; VOL'FKOVICH, S.I., red.; DIKUSHIN, V.I., red.; NEMCHINOV, V.S., red.; VEYTS, V.I., red.; LEVITSKIY, O.D., red.; NEKRASOV, N.N., red.; PUSTOVALOV, L.V., red.; ROSTOVTSEV, N.F., akademik, red.; POPOV, A.N., red.; GRAFOV, L.Ye., red.; GASHEV, A.D., red.; PROBST, A.Ye., prof., red.; VASYUTIN, V.F., prof., red.; KROTOV, V.A., prof., red.; VASIL'YEV, P.V., doktor ekonom.nauk, red.; LYUDOGOVSKIY, G.I., kand. tekhn.nauk, red.; LETUNOV, P.A., kand.geol.-miner.nauk, red.; SHKOL'-NIKOV, M.G., kand.ekon.nauk, red.; RODINA, Ye.D., red.izd-va; GUSEVA, A.P., tekhn.red.

[Transportation; proceedings of the Conference on the Development of Productive Forces of Eastern Siberia] Transport; trudy Konferentsii po razvitiiu proizvoditel'nykh sil Vostochnoi Sibiri. Moskva, Izd-vo Akad.nauk SSSR, 1960. 203 p. (MIRA 13:10)

(Continued on next card)

BARDIN, I.P.---(continued) Card 2.

1. Konferentsiya po razvitiyu proizvoditel'nykh sil Vostochnoy Sibiri, 1958. 2. Chleny-korrespondenty AN SSSR (for Khachaturov, Veyts, Levitskiy, Nekrasov, Pustovalov). 3. Vsesoyuznaya akademiya sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Rostovtsev). 4. Deystvitel'nyy chlen Akademii stroitel'stva i arkhitektury SSSR (for Popov). 5. Zam.predsedatelya Gosplana RSFSR (for Grafov). 6. Chlen Gosplana RSFSR (for Gashev). 7. Institut kompleksnykh transportnykh problem AN SSSR (for Khachaturov, Verkhovskiy, Nekrasova, TSenin, Smirnov).
(Siberia, Eastern--Transportation)

PANFEROV, V.I. [deceased]; SMIRNOV, A.P., otv. red.; DOBSHITS, M.L., red. izd-va; YEGOROVA, N.F., tekhn. red.

[Local transportation networks and conditions of their formation] Mestnaia set' putei soobshcheniia i usloviia ee formirovaniia. Moskva, Izd-vo Akad. nauk SSSR, 1961. 131 p.
(MIRA 15:2)

(Transportation)

MALYGIN, S. A. (Candidate of Veterinary Sciences, Gor'kii Scientific Research Veterinary Station [NIVS], DRUZHKOV, I. D. (Head Veterinary Doctor of the Naruksov District) and SMIRNOV, A. P. (Senior Veterinary Doctor of the Veterinary Department of the Gor'kii Oblast' Administration of Production and Procurement of Agricultural Products).

"Rabies in cattle."

Veterinariya, vol. 39, no. 9, September 62, p. 22

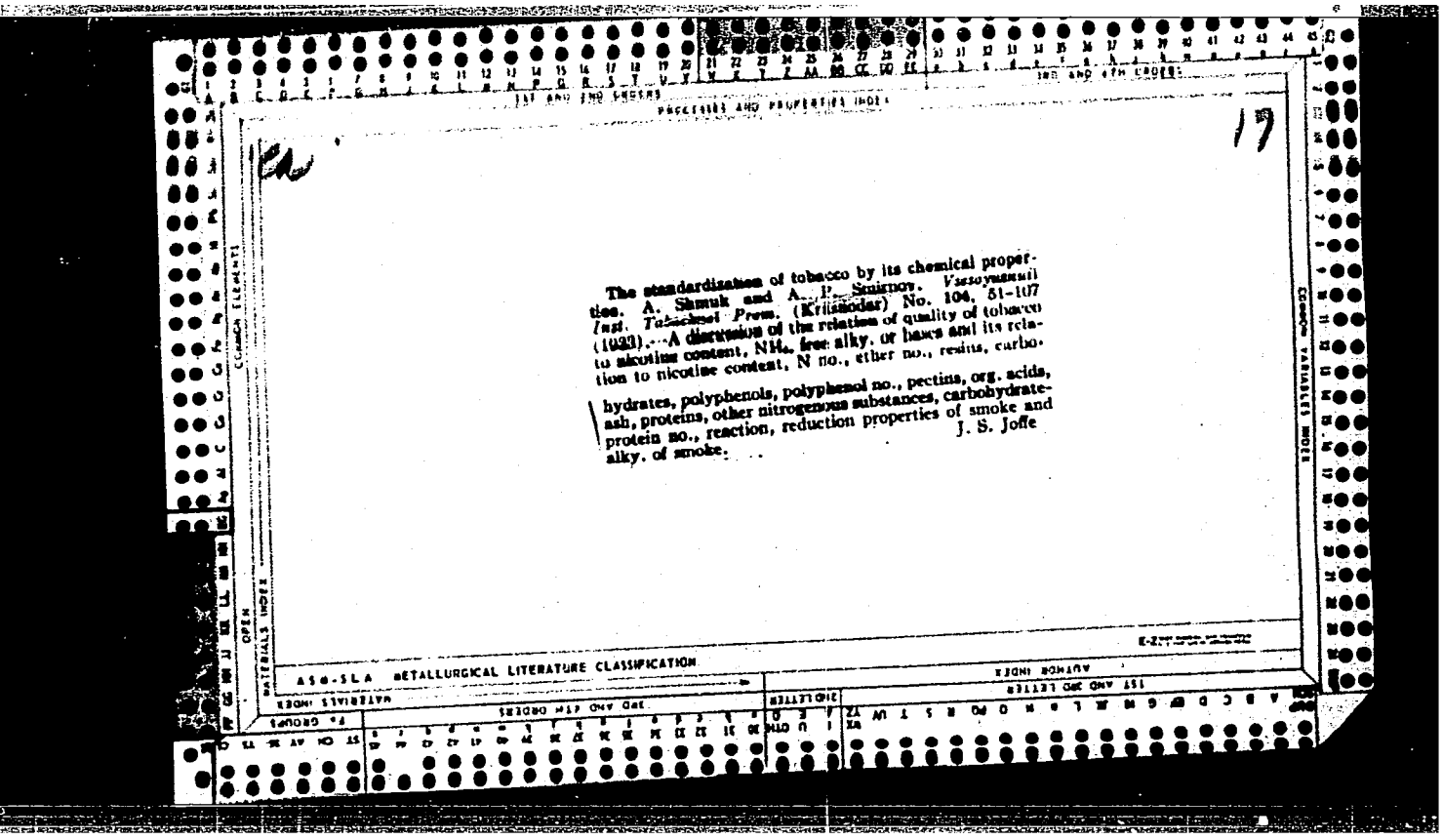
SMIRNOV, Anatoliy Pavlovich, inzh.; KHODULIN, Boris Nikolayevich, inzh.; ALEKSANDRINA, V.P., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Some problems in the technology and properties of high-strength sand concretes]Nekotorye voprosy tekhnologii i svoistv vysokoprochnykh peschanykh betonov. Leningrad, 1962. 23 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Stroitel'naia promyshlennost', no.22) (MIRA 16:2)
(Concrete--Testing)

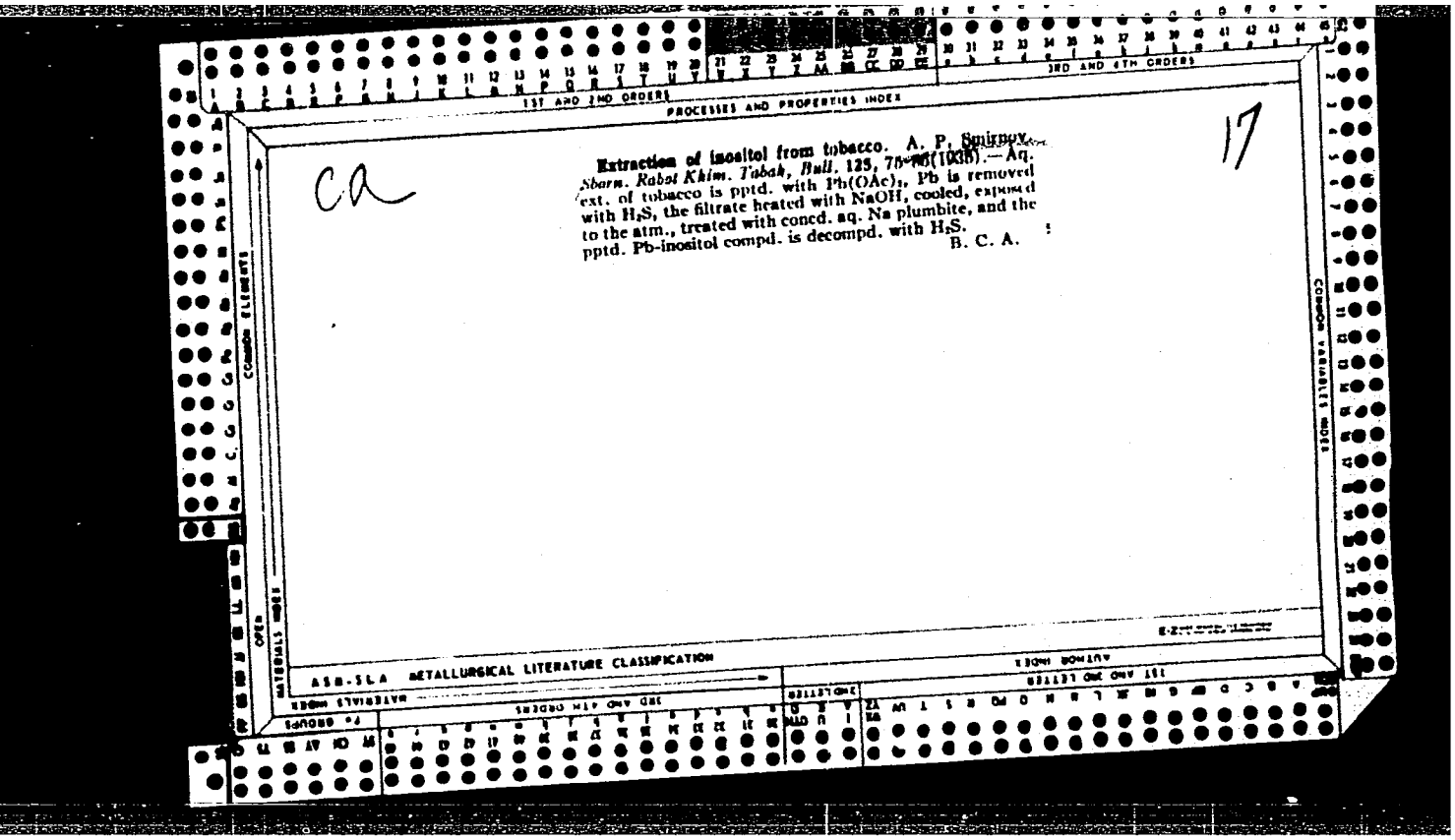
SMIRNOV, A.P.; VOLOGZHANIN, Yu.N.

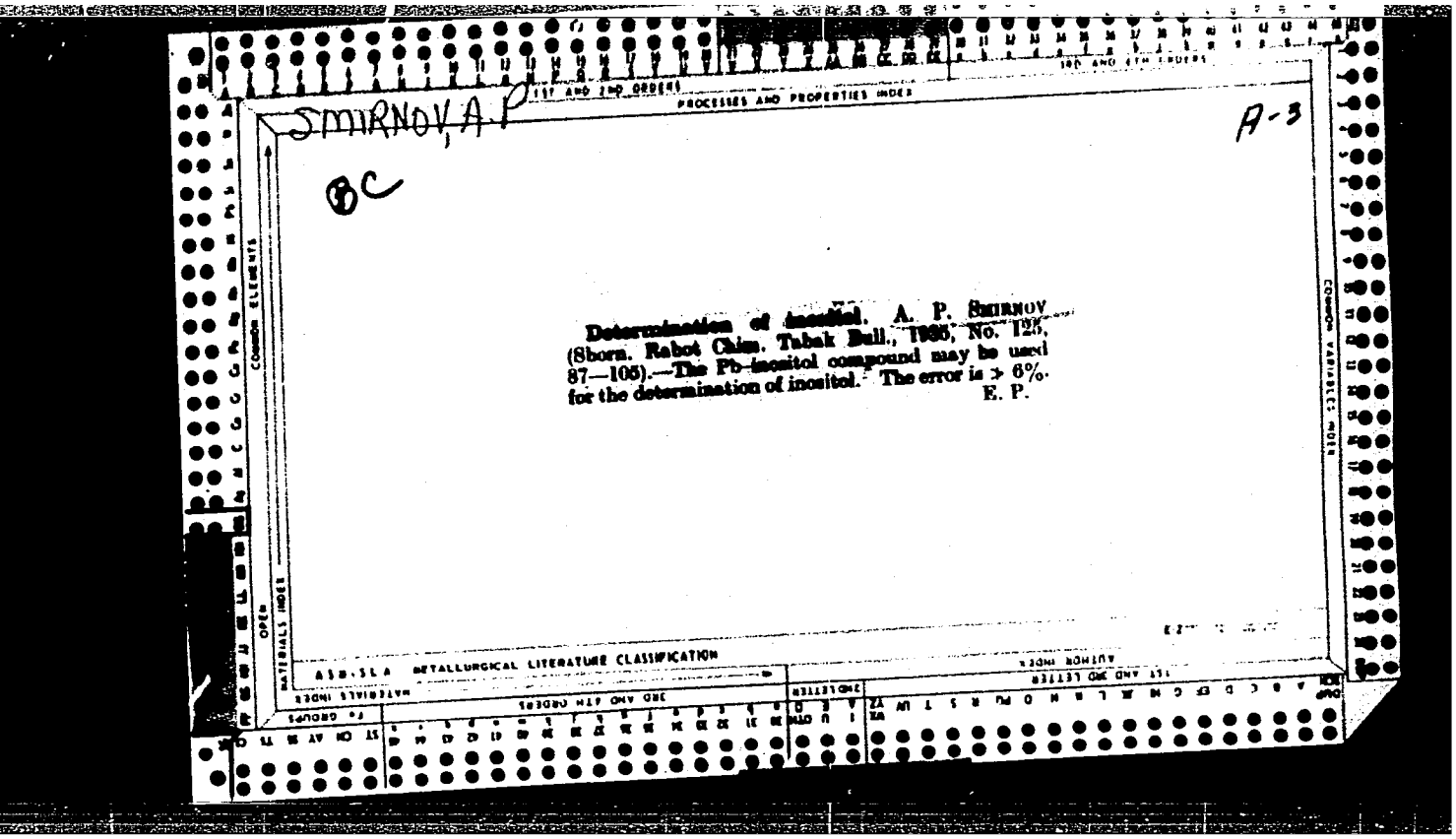
Traction substations without personnel on duty. Elek. i tepl.tiaga no.8:18-20 Ag '63. (MIRA 16:9)

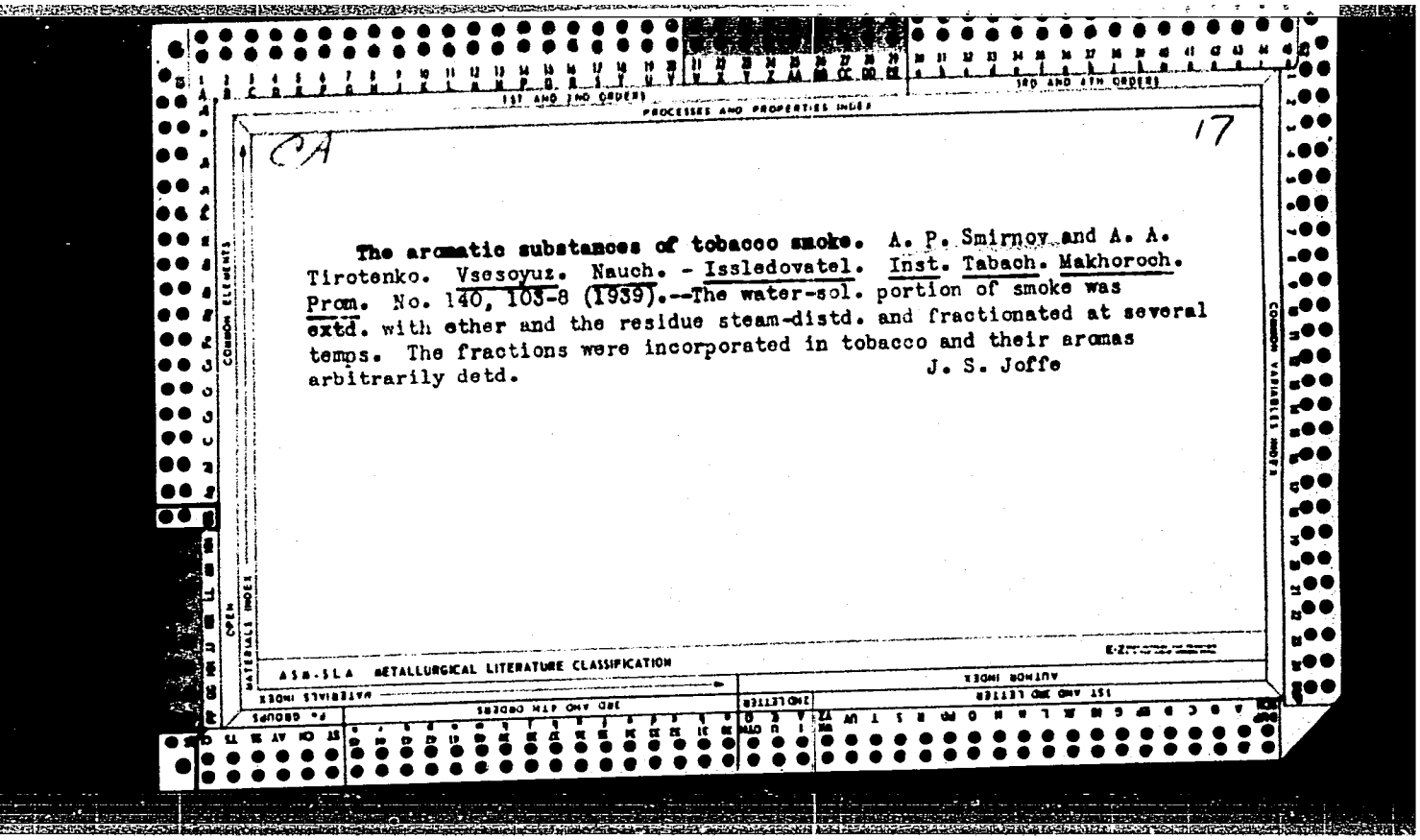
1. Nachal'nik Vladimirskogo uchastka energosnabzheniya Gor'kovskoy dorogi (for Smirnov). 2. Starshiy elektromekhanik uchastka po teleupravleniyu Gor'kovskoy dorogi (for Vologzhanin).
(Electric railroads--Substations) (Remote control)



The standardization of tobacco by its chemical properties. A. Shmuk and A. P. Smirnov. *Vsesoyuznyi Inst. Tabachnoi Prom.* (Krasnodar) No. 104, 51-107 (1923).—A discussion of the relation of quality of tobacco to nicotine content, NH_3, free alky. or haws and its relation to nicotine content, N no., ether no., resins, carbohydrates, polyphenols, polyphenol no., pectins, org. acids, ash, proteins, other nitrogenous substances, carbohydrate-protein no., reaction, reduction properties of smoke and alky. of smoke. J. S. Joffe



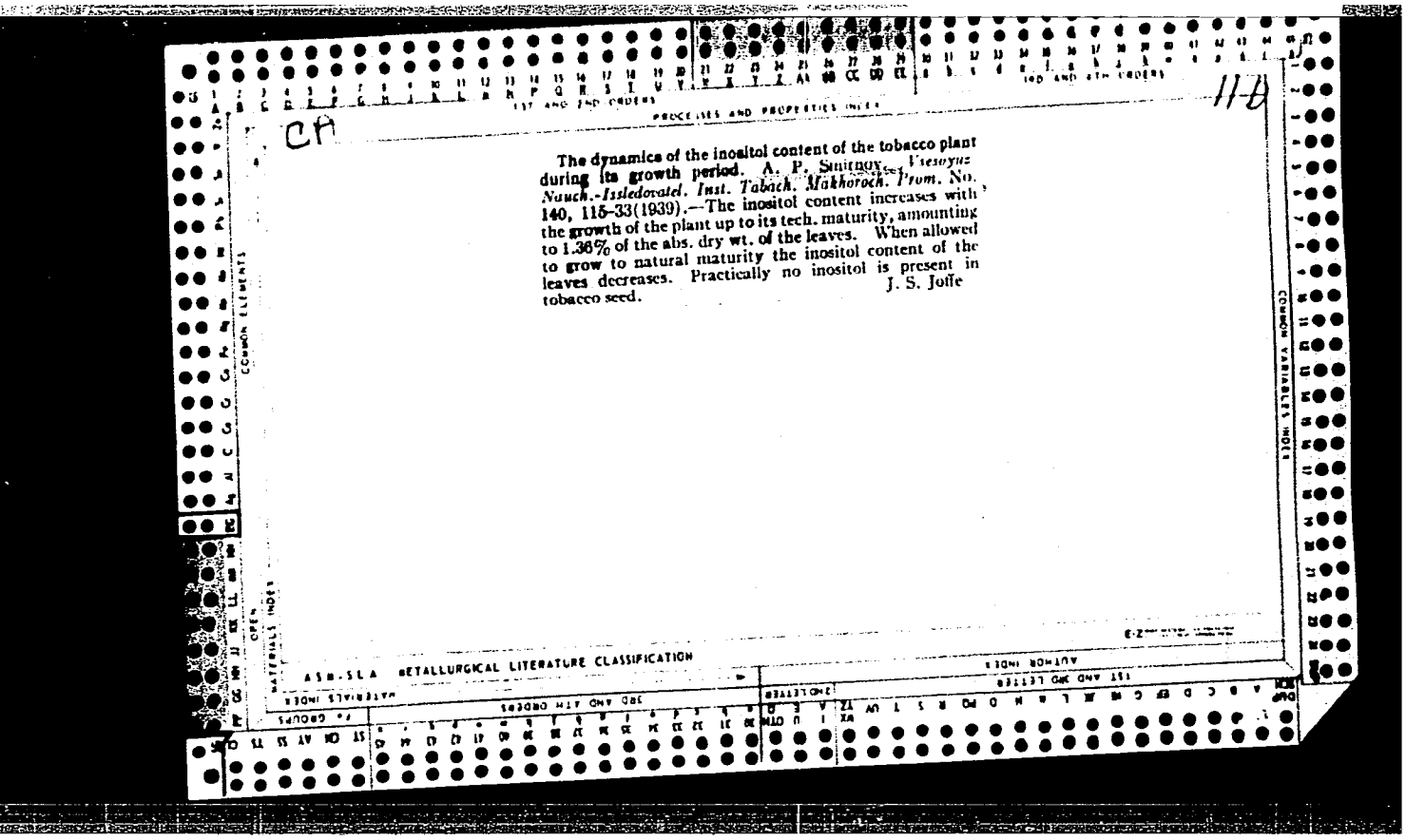




CA 17

The aromatic substances of tobacco smoke. A. P. Smirnov and A. A. Tirotenko. Vsesoyuz. Nauch. - Issledovatel. Inst. Tabach. Makhoroch. Prom. No. 140, 103-8 (1939).--The water-sol. portion of smoke was extd. with ether and the residue steam-distd. and fractionated at several temps. The fractions were incorporated in tobacco and their aromas arbitrarily detd.

J. S. Joffe



CA

11-B

The dynamics of the inositol content of the tobacco plant during its growth period. A. P. Smirnov. *Trudy Vses. Nauch.-Issledovatel. Inst. Tabach. Makhoroch. Prom.* No. 140, 115-33(1939).—The inositol content increases with the growth of the plant up to its tech. maturity, amounting to 1.36% of the abs. dry wt. of the leaves. When allowed to grow to natural maturity the inositol content of the leaves decreases. Practically no inositol is present in tobacco seed.

J. S. Joffe

SMIRNOV, A. P.

Tobacco Manufacture and Trade

Introduce objective methods for controlling the production process and the quality of tobacco products. Tabak 13, No. 3, 1952

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

1. SMIRNOV, A. P.: CHERNIKOV, V. V.: KUZNETSOVA, A. A.
2. USSR (600)
4. Tobacco - Analysis and Chemistry
7. Effect of tobacco tar on its steeping rate. Tabak 13 no. 6, 1952.

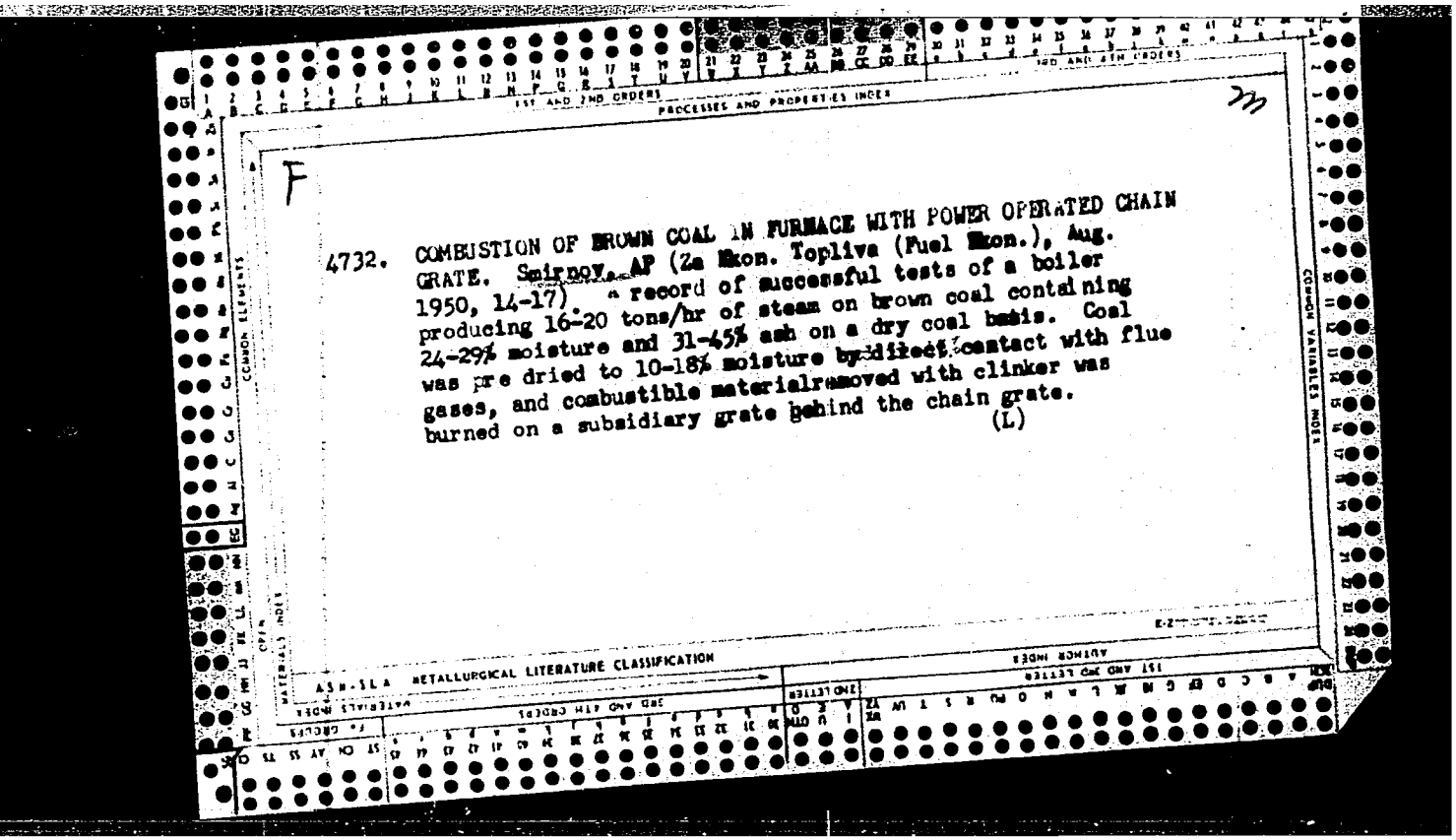
9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

SMIRNOV, A.P., dotsent; KHOLOSTOV, V.A., inzhener, redaktor.

[Principles of the technology of factory processing of tobacco] Osnovy tekhnologii fabrichnoi pererabotki; tabachnyi tsekh. Pod red. V.A.Kholostova. Moskva, Gos. izd-vo Ministerstva legkoi i pishchevoi promyshl., 1953. 170 p. (MLRA 7:4)
(Tobacco industry)

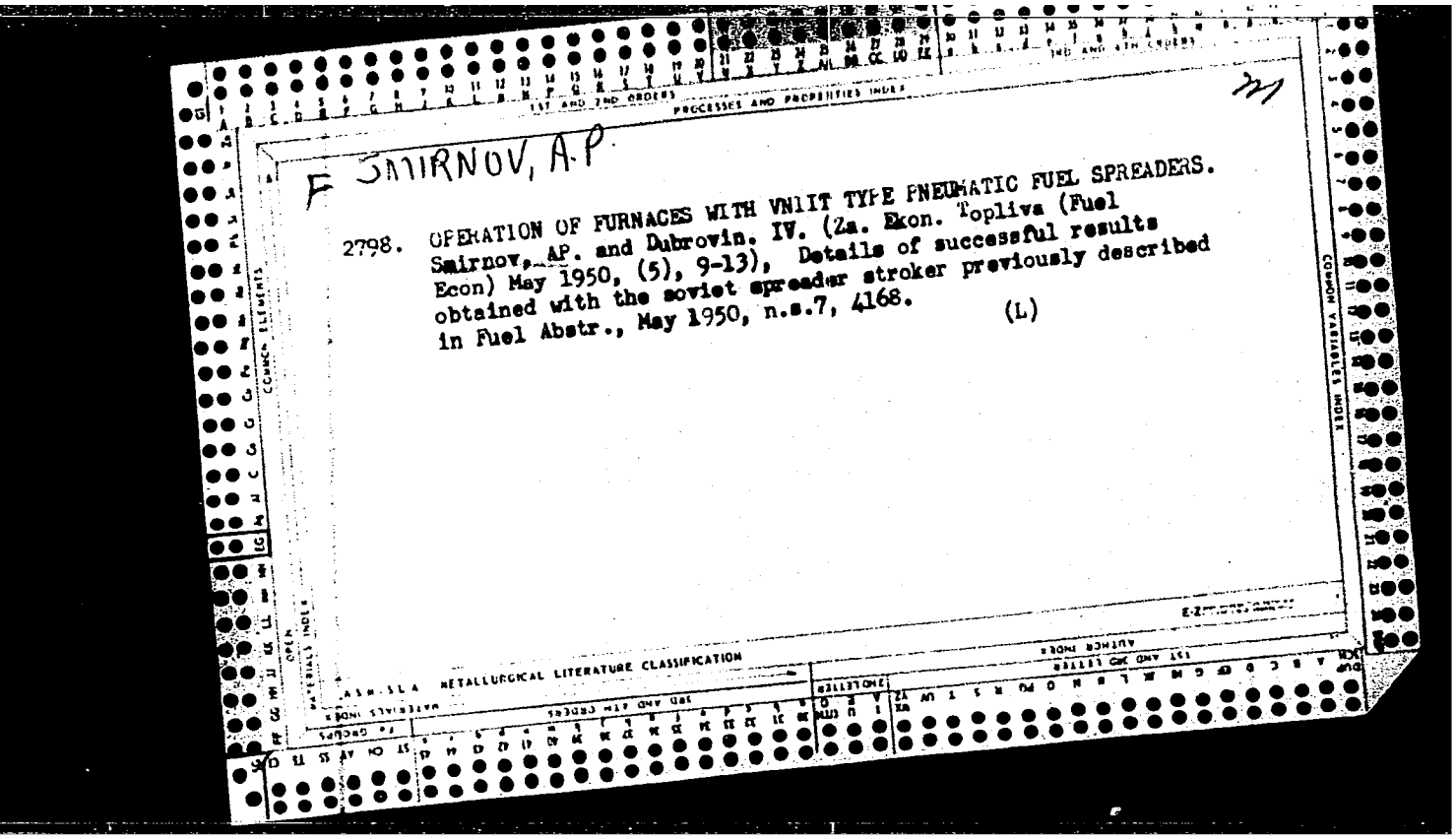
ASMAYEV, Petr Georgiyevich, kandidat sel'skokhozyaystvennykh nauk; SMIRNOV, A.P., kandidat biologicheskikh nauk, retsenzent; IL'IN, G.S., retsenzent; MASHKOVTSEV, M.F., kandidat tekhnicheskikh nauk, spetsredaktor; PRITYKINA, L.A., redaktor; CHEBYSHEVA, Ye.A., tekhnicheskiy redaktor

[Development of varieties and the fermentation of tobacco] Sortovedenie i fermentatsiia tabaka. Moskva, Pishchepromizdat, 1956. 395 p. (MIRA 10:3)
(Tobacco)



F

4732. COMBUSTION OF BROWN COAL IN FURNACE WITH POWER OPERATED CHAIN GRATE. Smirnov, AP (Za Mkon. Topliva (Fuel Mkon.), Aug. 1950, 14-17). A record of successful tests of a boiler producing 16-20 tons/hr of steam on brown coal containing 24-29% moisture and 31-45% ash on a dry coal basis. Coal was pre dried to 10-18% moisture by direct contact with flue gases, and combustible material removed with clinker was burned on a subsidiary grate behind the chain grate. (L)



F SMIRNOV, A.P.

2798. OPERATION OF FURNACES WITH VNIIT TYPE PNEUMATIC FUEL SPREADERS. Smirnov, AP. and Dubrovin. IV. (Za. Ekon. Topliva (Fuel Econ) May 1950, (5), 9-13), Details of successful results obtained with the soviet spreader stroker previously described in Fuel Abstr., May 1950, n.s.7, 4168. (L)

SMIRNOV, A. P.

PA 248T87

USSR/Engineering - Fuels, Combustion Dec 52

"Investigation of the Conditions for Ignition of Coals During Combustion in Fuel-Beds," Cand Tech Sci A. P. Smirnov, VNIIT (All-Union Sci-Res Inst of Fuel Utilization)

Iz V-S Teplotekh Inst, No 12, pp 17-21

Investigates 17 grades of coals and peat, whose basic characteristics are given, in exptl furnace which permitted to stage conditions for top or bottom ignition of fuel bed corresponding to operational conditions in industrial stokers. Discusses relationship between time required for ignition of fuels and their basic characteristics, content of volatiles, elemental compn, temp characteristic and rate of burning.

248T87

1. SMIRNOV, A. P.

2. USSR (600)

4. Combustion

7. Examining the conditions of ignition of coal in layer combustion. Izv. VTI 21, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

SMIRNOV, A.P., slesar'; BURUKHIN, M.A., slesar'.

Repairing air preheater tubes. Energetik 1 no.1:11-12 Je '53. (MLRA 6:8)
(Steam boilers)

Smirnov, A.P.

62

2747. CHAIN GRATE FURNACE WITH VIBIT SYSTEM OF BOTTOM IGNITION. Smirnov, A.P. (Energetik (Ist Ener. Research), Mar. 1954, 29-32). Combustion of brown coal was improved by admitting extra-heat air under the front of the grate to insure ignition at the bottom of the bed. (L).

SMIRNOV, A. P.

3923. INTENSIFICATION OF COMBUSTION OF DAMP SOD PEAT. Smirnov, A.P. (Elekt. Sta. (Pwr Sta., Moscow), June 1956, 12-14). Small scale experiments on the ignition of peat by a hot air blast from below are recorded. The principle has been tried out on damp brown coal in boilers and is now suggested as an improvement of the Nakarev system for the combustion of sod peat in boilers. The Nakarev system comprises a chain grate stoker with the first third of the grate area taken up by the drying of the peat as it comes down on to the grate in a shaft. The suggestion is to eliminate the shaft, feed the peat like coal on to the front edge of the grate, heat 10% of the air for combustion to 350°C, and introduce it under the front end of the grate. The peat will then be ignited from below, peat with up to 70% moisture will burn and peat with 56% moisture will be ignited in the first 300 mm of a grate 7858 mm deep. (L).

Cand Tech Sci

137-58-4-6499

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 4, p 24 (USSR)

AUTHOR: Smirnov, A.P.

TITLE: An Investigation of the Operation of Underfeed Stokers on Metallurgical Heating Furnaces (Issledovaniye raboty mekhanicheskikh topok s nizhney podachey v nagrevatel'nykh metallurgicheskikh pechakh)

PERIODICAL: Sb. statey po energetike. Moscow, Metallurgizdat, 1957, pp 52-67

ABSTRACT: In the installation described the fuel is delivered by a worm conveyor from the feed bunker and is forced out at the bottom onto a grate having a retort with air nozzles. Coal that fails to burn completely is broken up on the grate, and burning is then completed by the air delivered to the grate via the nozzles. The stoker (S) was tested on heating and heat-treating furnaces of medium capacity. The use of these S mechanizes the most labor-consuming operation in the burning of solid fuel, namely, the stoking of coal into the S. The results of the operation of an improved design show that a number of clinkering and non-clinkering coals may be burned therein. A change in the grades

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137-1958-2-2303

Smirnov A.P.

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 13 (USSR)

AUTHOR: Smirnov, A.P.

TITLE: Experience With Floor-Fired Furnaces of VNIIMT Design (Opyt ekspluatatsii topok s nizhnim vosplameniyem sistemy VNIIMT)

PERIODICAL: Vses. n.-i. in-t metallurg. teplotekhn. Byul. nauchno-tekhn. inform., 1957, Nr 2, pp 75-84

ABSTRACT: A study was made, on experimental equipment at the VNIIMT laboratory, of the conditions under which various fuels ignite. The experimental equipment used consisted of a cartridge 200 mm in diameter and 300 mm in height mounted on a grill and filled with fuel; preheated air was blown through the fuel from below. Thermocouples were imbedded in a layer 25 mm from the grill. The time elapsing from the moment of filling the cartridge with fuel to the instant the temperature in the layer had increased to where it equalled the temperature of the draft was taken as the ignition time. The various types of fuel tested (in pieces of 5-10 mm grade size at a draft temperature of 350°) were found to have the following ignition times: Lignite 1.5-2.0 min; hard coal 2-5 min; peat (with a 45-% moisture content) 1.0 min; anthracite (at a 390° draft

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Experience With Floor-Fired Furnaces (cont.)

temperature) 12.5 min. Experiments with coke fines revealed that at a draft temperature of 400°, the grade size of the pieces being 5-10 mm, ignition time was 12 minutes. When the temperature was raised to 450°, the ignition time changed, ranging from 2.2 minutes for 0-4 mm pieces to 14.5 minutes for 15-25 mm pieces. The Institute (VNIIMT) has proposed a floor-fired system for use in fire chambers with power-driven grates equipped with a zoned air draft. On an SM 16/22 boiler of the Serov Works, which is equipped with a BTsR chain grate, a floor-fired system has been in use since 1951; all fire-chamber mechanisms function reliably, and wear and tear on the grate does not exceed the normal. To produce ignition at temperatures up to 300-320°, one-tenth of the air needed for combustion is preheated. The content of combustible materials in the slag amounts to 4-6%, and losses from incomplete combustion comprise 2.0-2.5 %. The speed of the air draft in the bed layer does not materially affect the ignition time. With a rate of heat liberation of 800,000 kcal/m^2hr, the combustible-material content of the slag is 6.8%, and combustible-material losses amount to 1%. Converting peat-burning chain-grate shaft burners already in operation to the floor-fired system does not involve any structural complications. G.G.

Card 2/2

1. Furnaces--Operation--Test methods 2. Furnaces--Operation--Test results

137-58-2-2855

SMIRNOV, A.P

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 93 (USSR)

AUTHOR: Smirnov, A.P.

TITLE: Performance Study of an Automatic Underfeed Stoker for Continuous Soaking Furnaces (Issledovaniye raboty mekhanicheskoy topki s nizhney podachey dlya nagrevatel'nykh metallurgicheskikh pechey)

PERIODICAL: Vses. n.-i. in-t metallurg. teplotekhn. Byul. nauchno-tekhn. inform., 1957, Nr 2, pp 85-95

ABSTRACT: A 6-year study of stoker performance was conducted on a continuous sheet-bar soaking furnace. The stokers functioned reliably. The fuel was supplied to the grate automatically; the heating process was easy to regulate and easy to maintain; slaggy coal could be used. Underfeed stokers had an efficiency of up to 96-98 percent; they are recommended for use on soaking furnaces of small and medium output. A schematic drawing of the design is included.

R.B.

1. Furnaces--Stoking--Automation

Card 1/1

SMIRNOV, A.P.

Burning gas in heating furnaces with pilot lights. Gaz. prom. (MIRA 11:3)
no.3:25-29 Mr '58.
(Furnaces) (Gas as fuel)

SMIRNOV, A.P.

Remodeling large heating furnaces for intermittent operation on gas. Gaz.prom. 4 no.1:30-32 Ja '59. (MIRA 12:1)
(Furnaces, Heating)

PAUSHKIN, Ya.M.; VISHNYAKOVA, T.P.; SMIRNOV, A.P.; ANAN'YEV, P.G.; NEPRYAKHINA, A.V.

Recent developments in the cracking of hydrocarbons; cracking with heat given off and cracking cut off at high temperatures. Trudy MINKHiGP no.44:118-128 '63. (MIRA 18:5)

MIRNOV, Andrey Petrovich; BAGNOLOV, A.I., red.

[Using gas fuel in heating furnaces] Ispol'zovanie gazoobraznogo topliva v otopitel'nykh pechakh. Moskva, Stroiizdat, 1964. 105 p. (MIRA 17:11)

SMOL'YANINOV, S.I.; STRAMKOVSKAYA, K.K.; SMIRNOV, A.P.; OLITSKIY, I.F.; KVASHNIN, S.A.

Removal of dust and tar from gases by electrostatic precipitation. Izv. TPI 126:91-97 '64. (MIRA 18:7)

CHEMANOVSKIY, M.[illegible]; [illegible]LAVIN, N.V.; KA[illegible], [illegible]; [illegible], [illegible]; SMIRNOV, A.F.

Pneumatic charging of coke into the firing hearth of a sintering furnace. Metallurg 9 no.6:4-5 Je '64. (MIRA 17:9)

1. Metallurgicheskiy kombinat im. Serova.

PAUSHKIN, Ya.M.; VISHNYAKOVA, T.P.; SMIRNOV, A.P.

Liberation of heat during the extensive decomposition of hydrocarbons. Khim. i tekh. topl i masel 9 no.8:5-8 Ag '64. (MIRA 17:10)

1. Moskovskiy ordena Trudovogo Krasnogo Znameni institut neftekhimicheskoy i gazovoy promyshlennosti im. aked. Gubkina.

SMIRNOV, A. P.

"Investigation of the Reversible Annealing Frangibility of Alloyed Structural Steels." Cand Tech Sci, Ural Polytechnic Inst imeni S. M. Kirov, Min Higher Education USSR, Sverdlovsk, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 631, 26 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

SMIRNOV, A.P.

AUTHORS: Lazarev, B. G., Sudovtsov, A. I., Smirnov, A. P. 56-4-42/54

TITLE: On the Supraconductivity of Beryllium Foils Which Condense on a Cold Underlayer (O sverkhprovodimosti plenok berilliya, skondensirovannykh na kholodnoy podlozhke). (Letter to the Editor)

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol. 33, Nr 4, pp. 1059-1060 (USSR)

ABSTRACT: Thin beryllium layers are by vaporizing condensed on the bottom of an evacuateable glass bulb. During the processes of vaporization and condensation the bottom of the glass bulb is dipped into liquid helium. The measurement of the supraconductivity takes place over two electrodes that are melted into the bottom. The thickness of the layer was about 10^{-6} cm. When the thickness increased to more than 10^{-5} cm, the layers came away from the underlayer. Fresh layers show supraconductive properties already at 4,2°K. An accurate determination of the transition point was not yet made, but it is supposed to lie near 8°K.

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AUTHORS: Reynov, N.M., Smirnov, A. P. SOV/181-1-8-20/32

TITLE: On the Elastic Limit of Tin and Indium

PERIODICAL: Fizika tverdogo tela, 1959, Vol 1, Nr 8, pp 1279 - 1280 (USSR)

ABSTRACT: During some investigations carried out at temperatures of liquid helium not only new particularities in the behavior of stressed metals but also a considerable influence of temperature lowering upon the processes to be examined has been found. Therefore, a continuation of this work at extremely low temperatures is of interest. Basing on metal elastic limit measurements the possibility of tensile tests at temperatures below 1°K has been explained. The transition from the range of elastic deformation to the range of irreversible deformations was consulted to determine the elastic limit by recording heat liberation at the beginning of nonelastic sample deformation. Preliminary experiments were made with polycrystalline tin samples (residual resistivity: 3.10^{-3}) at 0.1° - 0.3°K. Cooling was brought about by adiabatic demagnetization of a paramagnetic salt into which the cold-conductor (kholodoprovod) was pressed together with the sample soldered to it. The temperature

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of the sample was determined from magnetic susceptibility. With a stress of 1.8 kg/mm^2 upon tin and of 0.24 kg/mm^2 upon indium the samples lost superconductivity. With these stresses a nonelastic deformation probably has already been present in the samples so that the elastic limit does not exceed the above values. The authors do not have any information on publications concerning measurement of the elastic limit of tin and indium by way of low-temperature stretching. Experiments with single crystals at still lower temperatures will permit the recording of smaller heat quantities liberated during deformation and also a more accurate determination of the elastic limit. The authors thank A. V. Stepanov and V. I. Khotkevich for the discussion of the present paper. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR, Leningrad (Institute of Physics and Technology of the AS USSR, Leningrad)

SUBMITTED: July 30, 1958

SOV/126-7-1-17/28

AUTHORS: Lazarev, B.G., Sudovtsov, A.I. and Smirnov, A.P.

TITLE: Plastic Deformation of Iron During the $\gamma \rightarrow \alpha$ Phase Transition (O plasticheskoy deformatsii zheleza pri fazovom $\gamma \rightarrow \alpha$ perekhode)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 1, pp 122-127 (USSR)

ABSTRACT: In a number of papers (Refs.1-4) irreversible changes were detected in the sizes of iron specimens whilst passing through the $\alpha \rightleftarrows \gamma$ transition temperature range. Lately a paper (Ref.5) has appeared which deals with this particular phenomenon. The authors of the present paper give a few results of their investigation of the residual deformation of iron during transition through the phase change. This phenomenon has been detected dilatometrically. The experiments were carried out with Armco iron, and a few experiments with pure iron(made by the firm Hilger). All measurements were carried out in a vacuum of 10^{-6} -10^{-7} mm Hg. The basic measurements were carried out by means of a simple dilatometer placed in a vacuum (see Fig.1). In

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order to check the accuracy of the instruments, dilatometric curves (Fig.2) were plotted at low heating and cooling rates. On plotting the curves under conditions of slow heating and cooling, residual changes in the length of the specimens are not observed. However, a residual change does appear if the experiment is carried out fairly rapidly. It was essential to find which stage of the temperature change is responsible for the phenomenon, heating or cooling. The dilatometric curves in Figs.3 and 4, obtained for a suspended specimen, furnished the answer to this. Both curves were taken on heating (plain circles) and on cooling (points) in the temperature range 800-1000°C. If heating is carried out at any speed and cooling is slow (less than 50°C per minute), the dilatometric curve is reversible (see Fig.3) and no unusual effect appears. Only at a certain cooling rate does the residual elongation of the specimen begin to show (Fig.4). Hence the effect investigated appears in the cooling stage. It is completely absent if the cooling range does not include the transition range of one modification to the other. The effect is repeated

Plastic Deformation of Iron During the $\gamma \rightarrow \alpha$ Phase Transition

at each cycle and the overall elongation increases linearly with the number of cycles. Various curves (a, б, в, г, д, е) in Fig.5 have been plotted for various cooling rates (80, 90, 110, 130, 160 and 250°C per minute, respectively). The effect strongly depends on the cooling rate: the angle of inclination of the curves increases with increase in cooling rate. From this curve it can be seen that the effect appears at a cooling rate exceeding 50°C per minute, and increases to saturation. It is possible to assume that it is the difference in the sign of the heat of transformation, and hence the difference in plasticity of the interphase layer, which brings about the difference in deformation of the metal on heating and cooling; i.e. its irreversible dimensional change. This deduction was confirmed by the following experiment. Armco iron plates, 0.1 mm thick, 10 mm wide and 100 mm long were fixed horizontally in groups, and heated in a high vacuum by electric current in such a manner that their centres were in a temperature range exceeding 950°C (i.e. the γ-phase), whilst the ends exhibited a temperature gradient, so that the γ- and

α phases were both present, being divided by a boundary line. The boundary was perpendicular to the plate, and a change in current passed through the specimen caused it to be displaced along the specimen (the zone denoted by a dotted line in Fig.7). As a result of numerous current modulations the plate became shorter and at the same time its width increased in those portions at which the boundaries were displaced. The results of tests with a specimen undergoing compression by its own weight, instead of elongation, gave an effect which was opposite in sign but the same in absolute magnitude. Fig.8 illustrates the behaviour of the suspended specimen (upper curve) and a supported specimen (lower curve). Both curves of this figure were obtained at the same cooling rate, which was 90°C per minute. It appears that the fundamental reasons for this phenomenon are to be found in the volume change and in the heat given out during phase transformation. The actual effect depends very strongly on the experimental conditions, i.e. on the shape of the specimens and the

 conditions of temperature change.

SOV/126-7-1-17/28

Plastic Deformation of Iron During the $\gamma \rightarrow \alpha$ Phase Transition

There are 8 figures and 9 references, of which 4 are Soviet, 2 English, and 3 French.

ASSOCIATION: Fiziko-Tekhnicheskiy institut AN USSR (Physico-Technical Institute, Ac. Sc. Ukr.SSR)

SUBMITTED: December 6, 1957

Card 5/5

MIRNOV

24(0)
AUTHOR: Chetaev, N.

SOV/53-67-4-7/7

TITLE: The Fifth All-Union Conference on the Physics of Low Temperatures (5-ye Vsesoyuznoye soveshchaniye po fizike nizkikh temperatur)

PERIODICAL: Uspekhi fizicheskikh nauk, 1959, Vol 67, Nr 4, pp 743-750 (USSR)

ABSTRACT: This Conference took place from October 27 to November 1 at Tbilisi. It was organized by the Otdeleniye fiziko-matematicheskikh nauk Akademii nauk SSSR (Department of Physico-mathematical Sciences of the Academy of Sciences, USSR), the Akademiya nauk Gruzinskoy SSR (Academy of Sciences, Gruzinskaya SSR), and the Tbilisskiy gosudarstvennyy universitet im. Stalina (Tbilisi State University [named Stalin]). The Conference was attended by about 300 specialists from Tbilisi, Moscow, Kharkov, Kiyev, Leningrad, Sverdlovsk, and other cities as well as by a number of young Chinese scientists at present working in the USSR. About 50 lectures were delivered which were divided according to research fields.

V. Various Questions.

One of the most interesting lectures delivered at this Conference was that by I. A. Pomeranchuk, B. G. Lazarev, Ya. D. Shiropobov and V. L. Ginzburg (IKhFI) on the polymorphism of metals at low temperatures. P. L. Kapitsa commented on this topic during the discussion. B. F. Bulatova, V. S. Borovik and B. G. Lazarev (IKhFI) investigated the system hydrogen-deuterium by the methods of low-temperature calorimetry, thermal analysis, and the visual observation of crystallization. Kh. I. Amirkhanov, Sh. Kh. Amirkhanova and R. I. Bashirov investigated the thermomagnetic properties of compounds of the type $AIIIBV$ and $AIIBVI$, and dealt with the phenomenon of the "photomagnetic" predicted by Gurvich; the investigation was carried out at the Dagestanskiy filial AN SSSR (Dagestan Branch, AS USSR). M. E. Raynov and A. P. Saimon (LFTI - Leningrad Physico-technical Institute) gave a report on the measurement of the electricity limit of tin- and indium polycrystals at very low temperatures (1°K), and M. M. Raynov and F. I. Krivko (LFTI) spoke about attempts made to find the expected diamagnetic resonance on polarons in cuprous oxide. G. R. Khutsishvili (FTU i Institut fiziki AN Gruzinskoy SSR - Tbilisi State University and Institute of Physics AS Gruzinskaya SSR) carried out a theoretical investigation of the Overhauser effect in non-metals. Lomkadze investigated the electron- and nuclear (proton) resonance in diphenylpicryl hydrazyl at helium temperature. B. N. Samoylov spoke about experiments he carried out concerning the orientation of Co^{60}- and Mn^{56}-nuclei (in iron) at extremely low temperatures. B. P. Zakharchenya and Ya. F. Orgas (LFTI) investigated the absorption spectrum of a cuprous oxide crystal in the magnetic field at helium temperature and observed the effect of magneto-optical oscillations. V. P. Pashkov and M. P. Malkov gave information concerning scientific work of Soviet scientists in foreign countries (zagranichnaya nauchnaya komandirovka), and E. V. Shpol'skiy spoke about the abstracting journal "Fizika". The head of the department for problems of the physics of low temperatures, Academician P. L. Kapitsa and the President of the Academy of Sciences Gruzinskaya SSR, Academician M. I. Mukhelishvili closed the Conference. The 6. All-Union Conference on the Physics of Low Temperatures will be held in June and July 1959 in the city of Sverdlovsk.

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Card 10/11

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AUTHORS: Reynov, N.M. and Smirnov, A.P.

TITLE: Determination of the Elastic Limit of Metals at Ultra-low Temperatures

PERIODICAL: Pribory i tekhnika eksperimenta, 1960, Nr 1, pp 128 - 130 (USSR)

ABSTRACT: The temperatures involved are less than 1 °K. Figure 1 shows a schematic drawing of the apparatus employed to determine the elastic limit of superconducting metals by a thermal method. The very low temperatures (down to 0.05 °K) were obtained by adiabatic demagnetisation of a paramagnetic salt (Ref 4). The specimen (21) of the metal under investigation was in the form of a wire 0.1 - 0.4 mm in diameter and 5-10 mm long. One end of the wire was attached to a silver rod (20) pressed into a block of the paramagnetic salt (10). In order to reduce the supply of heat to the working block a similar buffer block (8) was placed as shown in Figure 1. The lower end of the specimen was attached to the silver extension arm (16) which in its turn was attached to the iron core (24) of the electromagnet. To prevent the

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Determination of the Elastic Limit of Metals at Ultralow Temperatures

heating of the specimen by light, special diaphragms (1) were inserted and the specimen was screened by the glass tube (22) covered with silver paste which was in contact with the working block (10). The electromagnet can produce stresses of up to 100 g. The specimen was surrounded by the solenoid (13) which produced an axial magnetic field of 350 Oe at 0.5 A. The electrical resistance was measured by the induction method described by Samoylov in Ref 5 with the aid of the three coils (15), (23), having a large number of turns and the two coils (14) made of a super-conducting wire and directly connected with the specimen. The elastic limit was determined as follows. As soon as the lowest temperature due to the demagnetisation of the salt was reached, a preliminary determination was made of the rate of heating of the working block of salt due to the natural leak of heat. Next, a determination was made of the critical magnetic field for which the specimen goes over from superconducting to the normal state as a function of temperature. The magnetic field of

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Determination of the Elastic Limit of Metals at Ultralow Temperatures

the solenoid is adjusted so that heating of the specimen through 0.1 - 0.2 °K from the starting temperatures causes its transition from the superconducting to the normal state. The stress is then applied to the specimen with the aid of the electromagnet and the natural heating of the specimen during the extension should be less than 0.1 °K. When the resistance of the specimen appears, the load on it is noted and this determines its thermal elastic limit. It was found that the minimum value of the elastic limit of monocrystalline specimens of tin is 200 g/mm^2.
There are 2 figures and 8 references, 4 of which are Soviet, 2 German and 2 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN SSSR (Physico-engineering Institute of the Ac.Sc., USSR)

SUBMITTED: October 10, 1958

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24 7700

AUTHORS: Kolchin, A. M., Mikhaylov, Yu. G., Reynov, N. M., Rumyantseva, A. V., Smirnov, A. P., Totubalin, V. N.

TITLE: Investigation of the destruction of superconductivity in thin tin films

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 6, 1961, 1543 - 1550

TEXT: The possibilities of practically applying superconduction effects (cf. Proc. IRE, 48, 1233 and 1395, 1960) make it of interest to study the destruction of the superconductivity of thin metal films as caused by current. Subject to this work was to elucidate the regularities of the destruction of superconductivity by a magnetic field or a current, as well as to describe the laws governing the return of the film to the superconducting state on removal of the field (current) in a larger temperature interval. The investigations were limited to films of thicknesses (1 - 8) $\cdot 10^{-5}$ cm under the action of current pulses of different shapes and lengths and at temperatures near the critical one. The results of the measurements have

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Investigation of . .

been presented earlier to the Seventh All - Union Conference on Low Temperature Physics in Khar'kov (June 1960). The films were prepared by vacuum sputtering ([illegible]$^{-5}$ mm Hg). Fig. 1 shows the appearance of such a sample with the current and voltage contacts. The backing was glass or mica, chemically purified and heated in vacuo. The film thickness was determined by weighing; the breadths of the films were 0.[illegible]0 - 0.25 mm. The resistances of the films amounted to 30 - [illegible]30 ohms at room temperature. Direct current experiments were done with a potentiometer circuit with galvanometer or rheochord with automatic recording of current and voltage by recording potentiometers of the types ЭПП-09М (EPP-09M) and ЭПП-[illegible]М (EPP-11M). The transition of the sample to (from) the superconducting state was established by an oscillographic apparatus (use of an oscillograph of the type ЭНО-1 (ENO-1)) which allows to observe and photograph the volt-ampere characteristics. Generators of the types ГИС-2 (GIS-2) and ГИ-3М (GI-3M) were used to study the destruction of superconductivity by pulsed current (duration of the pulse 0.1 - 10 sec). The current and voltage were recorded simultaneously by a double-ray oscilloscope of the type ДЭСО-1 (DESO-1). In direct current operation at 4.2°K, films of resistance of 1 - 6 ohms and resistivity 0.4 - 1 μohm/cm were investigated.

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Investigation of ...

The critical temperature of these films for a measuring current of 40 ma lay between 3.75 and 3.85°K and was therefore higher than for massive tin. The experiments showed that with increasing current the resistance increased first very slowly, and for currents over 10 ma more rapidly. The transition of the sample from the superconducting to the normal state on increasing current was investigated by taking measurements with triangular pulses. The influence of thermal effects on the transition could also be studied in this way. It was found that the sample was heated even by a rise and fall in the pulse of 0.1 μsec each. This heating is attributed to the appearance of a hysteresis on transition from normal to the superconducting state. Fig. 8 shows a volt - ampere characteristic (pulse growth 0.5 μsec, fall 0.1 sec, sequence 50 cps, I_{max} = 150 ma). Further measurements were made by rectangular pulses of 0.1 : 10 μsec (front 0.05 - 0.15 μsec). Fig. 10 shows an oscillogram of the transitions of a sample from the superconducting to the normal state for a pulse length of 2 μsec (upper curve: current, lower: voltage). The following results were obtained from the studies: The regularities found hold for films of such thicknesses for which the current destroying the superconductivity depends only slightly on the thickness.

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Investigation of ...

For thinner samples, other regularities are to be expected. Under the action of very short pulses the transition is greatly affected by Joulean heat and heat caused by Foucault currents. Besides the hysteresis of thermal effects on transition from the normal state to the superconducting state, there is also observed a hysteresis which is attributed to the existence of superconducting domains in the normal phase. The duration of the spontaneous transition to the superconducting state is considerably smaller than that of the destruction of the intermediate state arising when the superconducting state is destroyed by current. The duration of transition from the superconducting to the normal state depends on the amplitude of the current in the pulse. For sufficiently large amplitudes, the transition time is $t < 5 \cdot 10^{-9}$ sec. A. A. Galkin is mentioned. There are 12 figures and 10 references: 4 Soviet-bloc and 6 non-Soviet-bloc. The most important references to English-language publications read as follows: J. W. Bremer, V. L. Newhouse. Phys. Rev. 116, 309, 1959 and Phys. Rev. Lett. 1, 282, 1958; C. R. Smallman et al. Proc. IRE, 48, 1562, 1960.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Institute of Physics and Technology of the Academy of Sciences, USSR)

KOLOMYS, N.Ye., inzh.; SMIRNOV, A.P., inzh.; TRUBUB, V.T., inzh.

Experience in using heat shields in 150 Mw. blocks. Elek. sta. 35 no.3:8-12 Mr '64. (MIRA 17:6)

L 16381-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4/Pi-4 RPL WW/JW/RM
ACCESSION NR: AP4043278 S/0065/64/000/008/0005/0008

AUTHOR: Paushkin, Ya. M.; Vishnyakova, T. P.; Smirnov, A. P.

TITLE: Evolution of heat on intensive dissociation of hydrocarbons

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 8, 1964, 5-8

TOPIC TAGS: hydrocarbon dissociation, aliphatic hydrocarbon, olefinic hydrocarbon, aromatic hydrocarbon, dissociation reaction, conversion

ABSTRACT: The heat effects in the dissociation of a variety of hydrocarbons to CH_4 and C, and H_2 and C were investigated. Values for the heat effects for these dissociations were calculated for several aliphatic olefinic, and aromatic hydrocarbons; the calculated thermodynamic potentials, at 25C, confirmed the possibility of the dissociation reactions. These compounds were subjected to a fluidized bed cracking process in the presence of a nickel catalyst at 300-650C to form C, H_2, CH_4 and traces of gaseous olefins. All the hydrocarbons were cracked; the conversion of the unsaturated compounds was the highest (and their thermal effect

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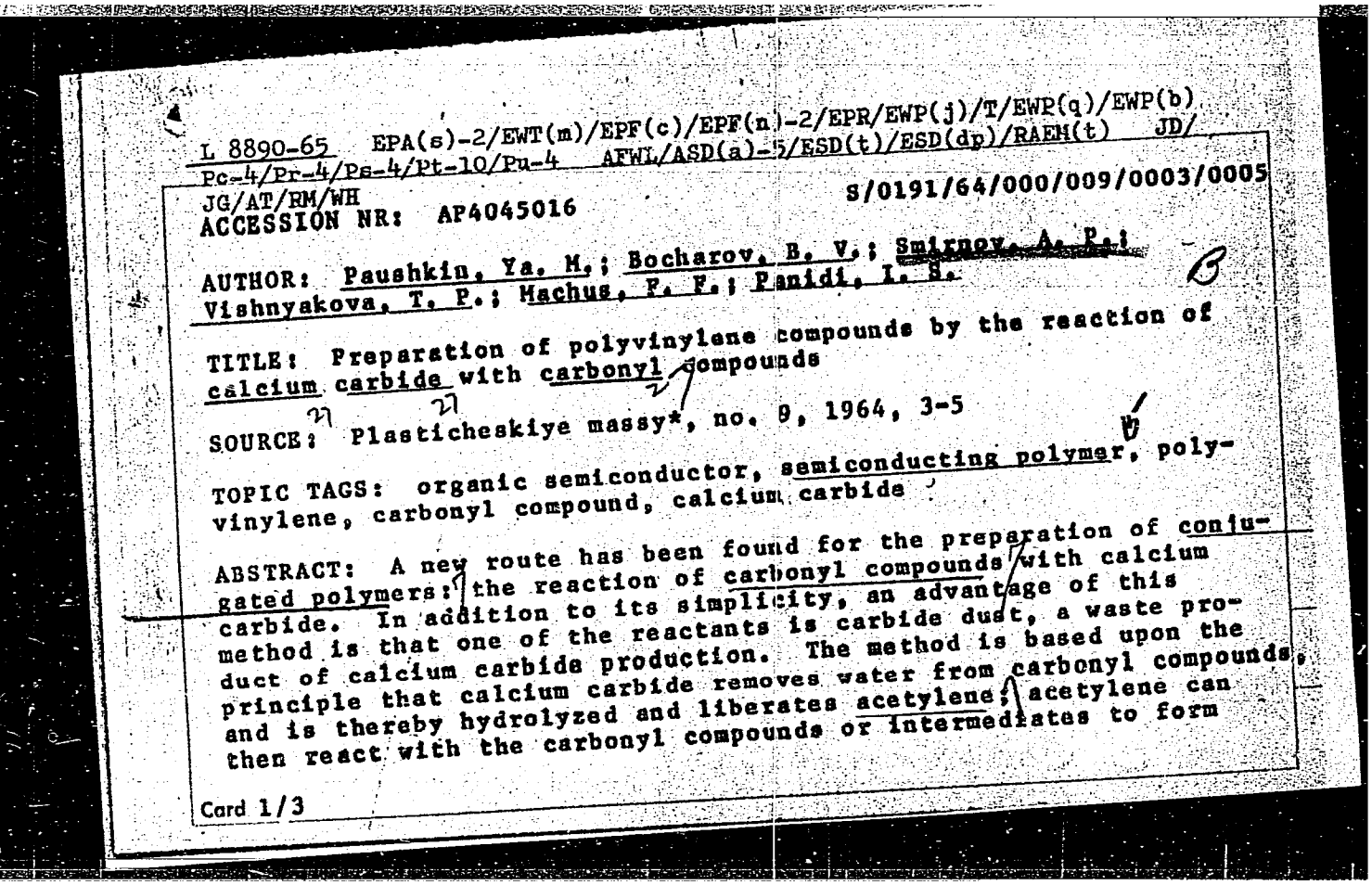
was the highest). Increasing the reaction temperature caused a decrease in the CH_4 and an increase in the H_2 content in the conversion products, and lowered the heat effect. It was concluded CH_4 was formed first, and the H_2 formation was due to the breakdown of CH_4. In the 500-600C range the heat effect decreased due to CH_4 dissociation. The reaction for paraffinics is exothermic only if the reaction proceeded to CH_4 and C (400-450C), at higher temperatures the reaction is endothermic. The conventional cracking process, which results in the formation of a complex mixture of hydrocarbons, is an endothermic reaction. The heat effect of cracking dienes, aromatic and olefinic hydrocarbons compares and in some cases exceeds, the heat of combustion and detonation processes. Orig. art. has: 1 figures and 3 tables.

ASSOCIATION: MINKh and GP

SUBMITTED: 00 ENCL: 00

SUB CODE: GC, TD NO REF SOV: 001 OTHER: 000



L 8890-65 EPA(s)-2/EWT(m)/EPF(c)/EPF(n)-2/EPR/EWP(j)/T/EWP(q)/EWP(b)
Pc-4/Pr-4/Ps-4/Pt-10/Pu-4 AFWL/ASD(a)-5/ESD(t)/ESD(dp)/RAEM(t) JD/
JG/AT/RM/WH S/0191/64/000/009/0003/0005
ACCESSION NR: AP4045016

AUTHOR: Paushkin, Ya. M.; Bocharov, B. V.; Smirnov, A. P.; Vishnyakova, T. P.; Machus, F. F.; Panidi, I. S.

TITLE: Preparation of polyvinylene compounds by the reaction of calcium carbide with carbonyl compounds

SOURCE: Plasticheskiye massy*, no. 9, 1964, 3-5

TOPIC TAGS: organic semiconductor, semiconducting polymer, polyvinylene, carbonyl compound, calcium carbide

ABSTRACT: A new route has been found for the preparation of conjugated polymers: the reaction of carbonyl compounds with calcium carbide. In addition to its simplicity, an advantage of this method is that one of the reactants is carbide dust, a waste product of calcium carbide production. The method is based upon the principle that calcium carbide removes water from carbonyl compounds, and is thereby hydrolyzed and liberates acetylene; acetylene can then react with the carbonyl compounds or intermediates to form

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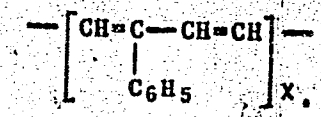
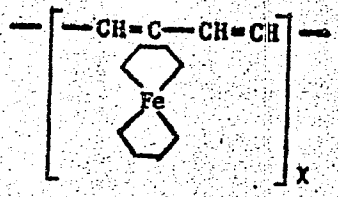
ACCESSION NR: AP4045016

conjugated polymers. The carbonyl compounds—acetone, acetophenone, acetaldehyde, and acetylferrocene—reacted with calcium carbide in molar ratios of 1/0.5 to 1/1 at 150—200C. The polymers produced were only partly soluble in organic solvents. The soluble fraction, whose yield was 13.3—38%, was studied by cryoscopic molecular weight determination and by elemental analysis. All of the polymers were also studied by EPR and IR spectroscopy. The polymer structures were assumed to be of the type



A polymer of the type



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L 8890-65

ACCESSION NR: AP4045016

was synthesized for the first time. Most of the soluble polymers were black or orange powders, except for the polymer from acetone, which was a viscous resin. Melting points varied from 50 to 500C. The acetylferrocene polymer melted at 500C and had a molecular weight of 2405; its yield was 38%. Solutions of all the polymers formed strong films with high adhesion to metal, wood, or porcelain substrates. Orig. art. has: 2 tables, 1 figure, and 4 formulas.

ASSOCIATION: none

SUBMITTED: 00 ATD PRESS: 3109 ENCL: 00

SUB CODE: MT NO REF SOV: 002 OTHER: 003

Card 3/3

MIT'KEVICH, G.P., inzh.; SMIRNOV, A.P., inzh.

Device for determining the speed of a constricted fall of gravel by using phosphorous and photomultipliers. Sbor. trud. VNIINerud no.4:125-127 '65. (MIRA 18:11)

1. Kuybyshevskiy politekhnicheskiy institut.

L 1568-66 EWT(1)/EWT(m)/EWP(w)/EWP(i)/T/EWP(t)/EWP(b IJP(c) GG/JD

ACCESSION NR: AP5019223 UR/0056/65/049/001/0117/0123

AUTHOR: Smirnov, A. P.; Totubalin, V. N.; Parshina, I. S.

TITLE: Change in the resistance of tin films upon destruction of their superconductivity by a current

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 1, 1965, 117-123

TOPIC TAGS: superconductivity, tin, metal film, critical point

ABSTRACT: This is a continuation of earlier work by some of the authors (Smirnov, Totubalin, with A. M. Kolchin et al, ZhETF v. 40, 1543, 1961) on a number of phenomena accompanying the destruction of superconductivity of tin films by current pulses of various waveforms and durations. The present paper contains more detailed results of an investigation of the change in the resistance of tin films induced by square current pulses of 0.4 μsec duration and 0.05 μsec rise time, carried out at 1.7--4.2K. The sample preparation was described elsewhere (A. D. Grigor'yev et al., PTE no. 8, 133, 1962). The current pulses were produced by a GI-4M generator. The measurements were made with a two-beam oscilloscope which recorded simultaneously the current through the sample and the voltage across it. In all samples the resistance at a fixed bath temperature (below critical) was zero

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ACCESSION NR: AP5019223

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below a certain value of current. For larger currents the sample resistance rose slowly during the action of the current pulse. Starting with some pulse-current amplitude, the resistance rose only during the current rise in the pulse. The results confirmed the previously noted step-like nature of the current dependence of the resistance. In all samples, the resistance R_{sn} restored by the current was less than the resistance R_n of the film in the normal state. The film resistance passed through a maximum before reaching the value R_{sn}. The critical current for the destruction of superconductivity is discussed, and it is shown that its temperature dependence depends on how the current itself is defined, but is best approximated by a parabolic curve down to 2.9K. It is also shown that the destruction of superconductivity is sensitive to the heat released by the current. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute, Academy of Sciences, SSSR) 44,55

SUBMITTED: 18Feb65 ENCL: 00 SUB CODE: SS, EM

NR REF SOV: 003 OTHER: 014

Card 2/2

L 9866-66 EWT(1)/EWA(h)
ACC NR: AP6001579 SOURCE CODE: UR/0120/65/000/006/0126/0127

AUTHOR: Smirnov, A. P.; Totubalin, V. N.

ORG: Physicotechnical institute AN SSSR, Leningrad (Fiziko-tekhnicheskiy institut AN SSSR)

TITLE: High-sensitivity cathode-ray curve tracer with brightness modulation

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 126-127

TOPIC TAGS: oscilloscope, cathode ray tube

ABSTRACT: A cathode-ray curve tracer is described which is designed for observing weak signals in the presence of periodic noise by the method of synchronous modulation both of brightness and noise. A block diagram of the tracer is shown in the figure. The current from audio-frequency oscillator 1 passes through a sample connected in series with standard resistance R_s. The voltage across the sample and the standard resistor, after amplification through amplifiers 2 and 3, is passed to oscilloscopes 6 and 7, which are coupled so that the vertical deflection amplifier of the first acts as the horizontal deflection amplifier of the second. Polarized relay 4, which can short-circuit voltage and current channels alternately, is used to produce images of coordinate axes on the oscilloscope. When current pulses — first of one, then of the other, direction — are passed, the corresponding coordinate axes

UDC: 621.317:351

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are generated on the oscilloscope. In the interval, the volt-ampere characteristic of the sample is produced. Generator 8, which produces positive pulses with a 100-v

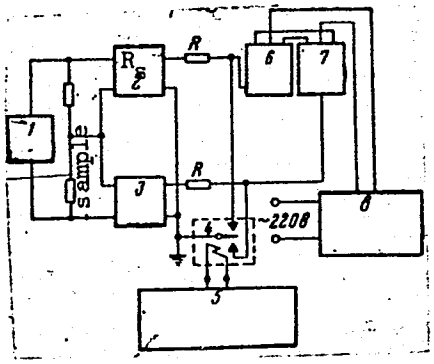

Fig. 1. Cathode-ray curve tracer

1 - Audio-frequency oscillator; 2 - amplifier; 3 - amplifier; 4 - polarized relay; 5 - relaxation generator; 6 - oscilloscope; 7 - oscilloscope; 8 - brightness modulator.

maximum height and a 50-μsec fixed duration, serves to modulate the brightness of the oscilloscope. In addition to volt-ampere characteristics, the signal shape can also be observed in the current and voltage channels. Orig. art. has: 3 figures. [JR]

SUB CODE: 09/ SUBM DATE: 23Oct64/ ATD PRESS: 4165